

* *PRENANTHES RACEMOSA* Mx. One or two plants along Central Vermont Railroad, Swanton, 25 August (*Blake* 3156). Perhaps introduced.

STOUGHTON, MASSACHUSETTS.

PLURALITY OF SEEDS IN ACORNS OF *QUERCUS PRINUS*.

CHARLES PIPER SMITH.

A LITTLE more than a year ago my colleague, Mr. B. W. Anson, brought me an interesting acorn of the chestnut oak, *Quercus Prinus* L. Two hypocotyls were protruding from the apical end of this nut and dissection brought to light two perfect seeds. Mr. Anson had been attracted by the large size of the acorns and was much surprised to find many of them with two sprouts in evidence. As he had never seen or heard of two-seeded acorns, he brought the matter to my attention.

My interest was aroused at once, both because of the size and weight of the nuts, and because my attention had been called, but a few days before, to a two-seeded acorn of *Q. alba* L. discovered by one of my students.

Following directions furnished by Mr. Anson, I soon visited the locality of the chestnut oaks, two miles east of College Park, and found, presumably, the very trees from which came his specimens. I proceeded to collect all the two-seeded acorns I could find under the two trees and the final count gave the number of fifty-four. Several one-seeded nuts, almost as large as the two-seeded ones, were also collected, and four three-seeded ones added more interest to the case. Almost all the acorns had germinated at this date, Nov. 17th., the few unsprouted specimens found being evidently defective and incapable of germination. Many of the sprouting acorns were lying uncovered on the surface of the ground, though few thus exposed had the radicle penetrating the soil.

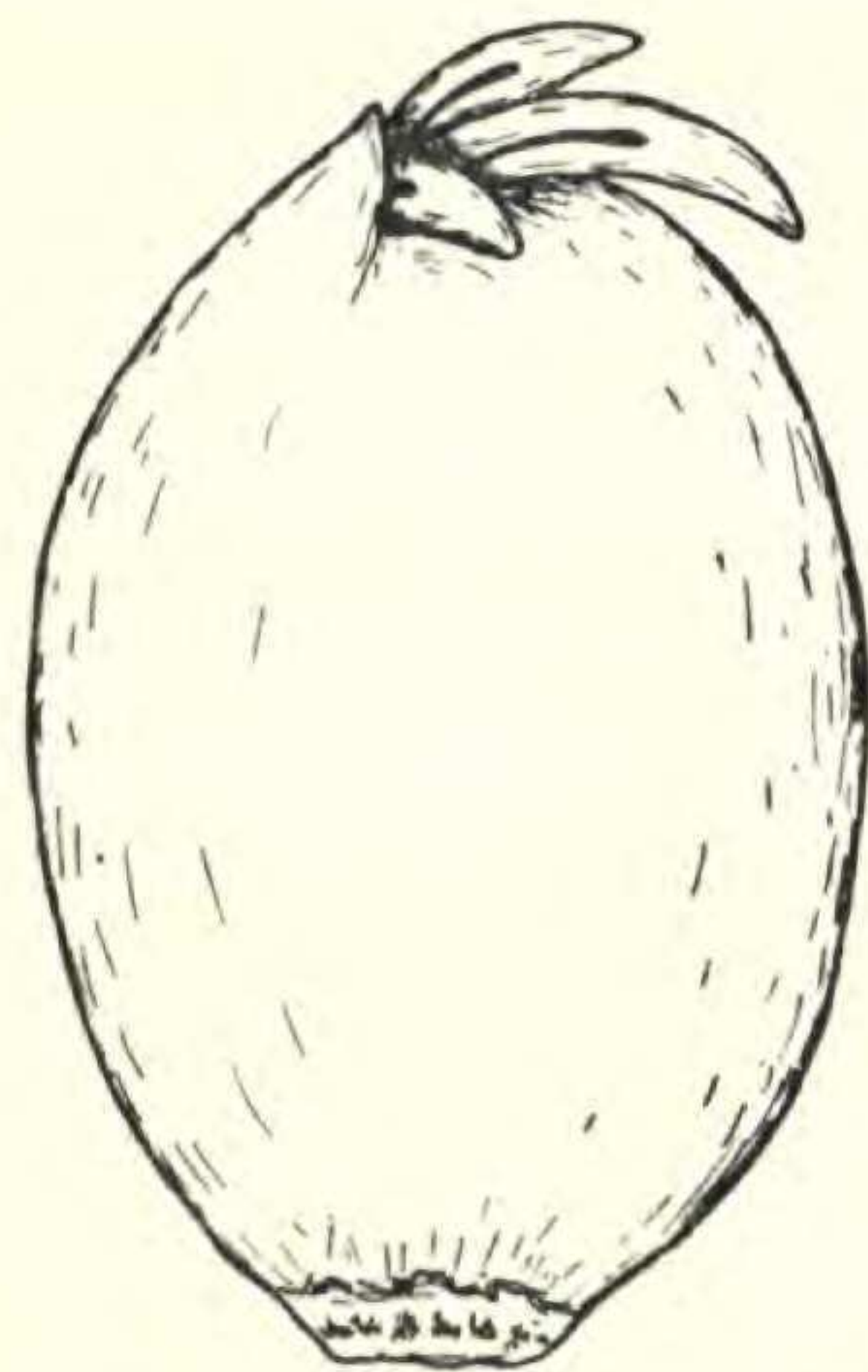


Fig. 1. A 3-seeded acorn with 3 hypocotyls emerging at apex.

One oak of another group of several trees furnished just two two-seeded specimens, the nuts of all these trees being more nearly average in size for the species and normal in other respects.

Two more two-seeded nuts were obtained, upon subsequent search, under the white oak from which came the one two-seeded acorn of that species mentioned above. Three out of over two-thousand nuts would evidently not attract attention except by pure accident; but with a possible 10% two-seeded, as in the case of the two chestnut oaks under our observation, one could not fail to notice some of the abnormal nuts upon giving any attention to the fallen crop.

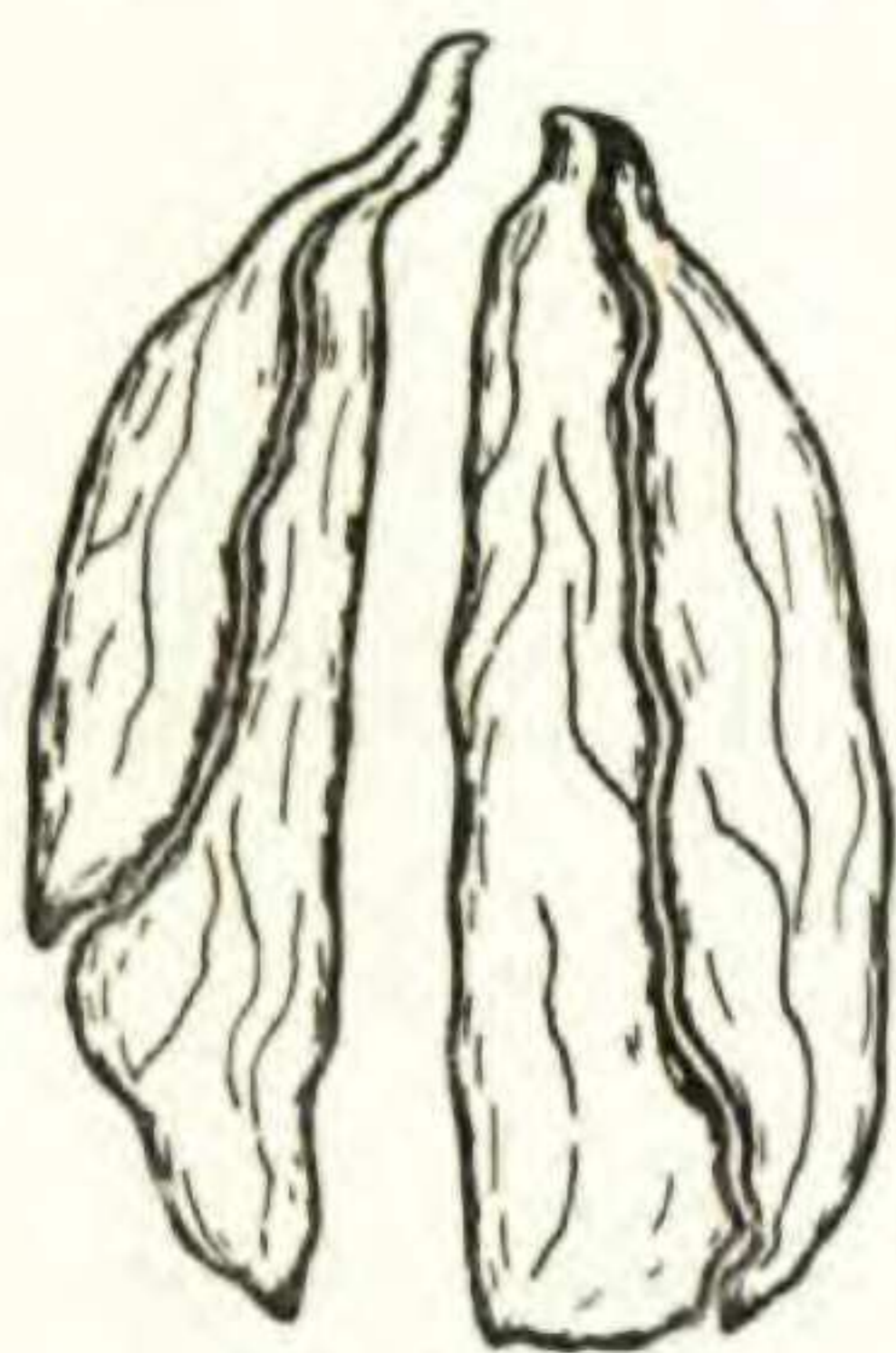


Fig. 2. Two embryos from a 2-seeded nut.

In accordance with resolutions made last year, I again visited these same oak trees this November. I found, however, the acorn crop to have been very small this season, with apparently no abnormal fruits amongst the few acorns on the ground. In size, this year's nuts are much smaller than those of 1912. The only two-seeded acorns I have noticed this season have been three from another white oak on the Maryland Agricultural College campus, and one from a very small-fruited chestnut oak west of Beltsville, Maryland.

The commonly accepted characterization of the fruit of the beech family as a one-seeded nut may justify one in taking interest in the finding of so many two-seeded, and even a few three-seeded, acorns. I am prone to believe, however, that this abnormality is much more common with us than our records would indicate. In American literature I find but one reference in this connection, Mrs. E. G. Britton some time since, in the *Bulletin of the Torrey Botanical Club*, describing and illustrating a single white oak acorn in which were extra cotyledons and two radicles. European writers, however, deserve credit for making record of not a few cases of teratological fruits of *Quercus*, Penzig, in his "Pflanzenateratologie," quoting Stenzel as the recorder of many two- and three-seeded acorns of *Q. Robur* L., and

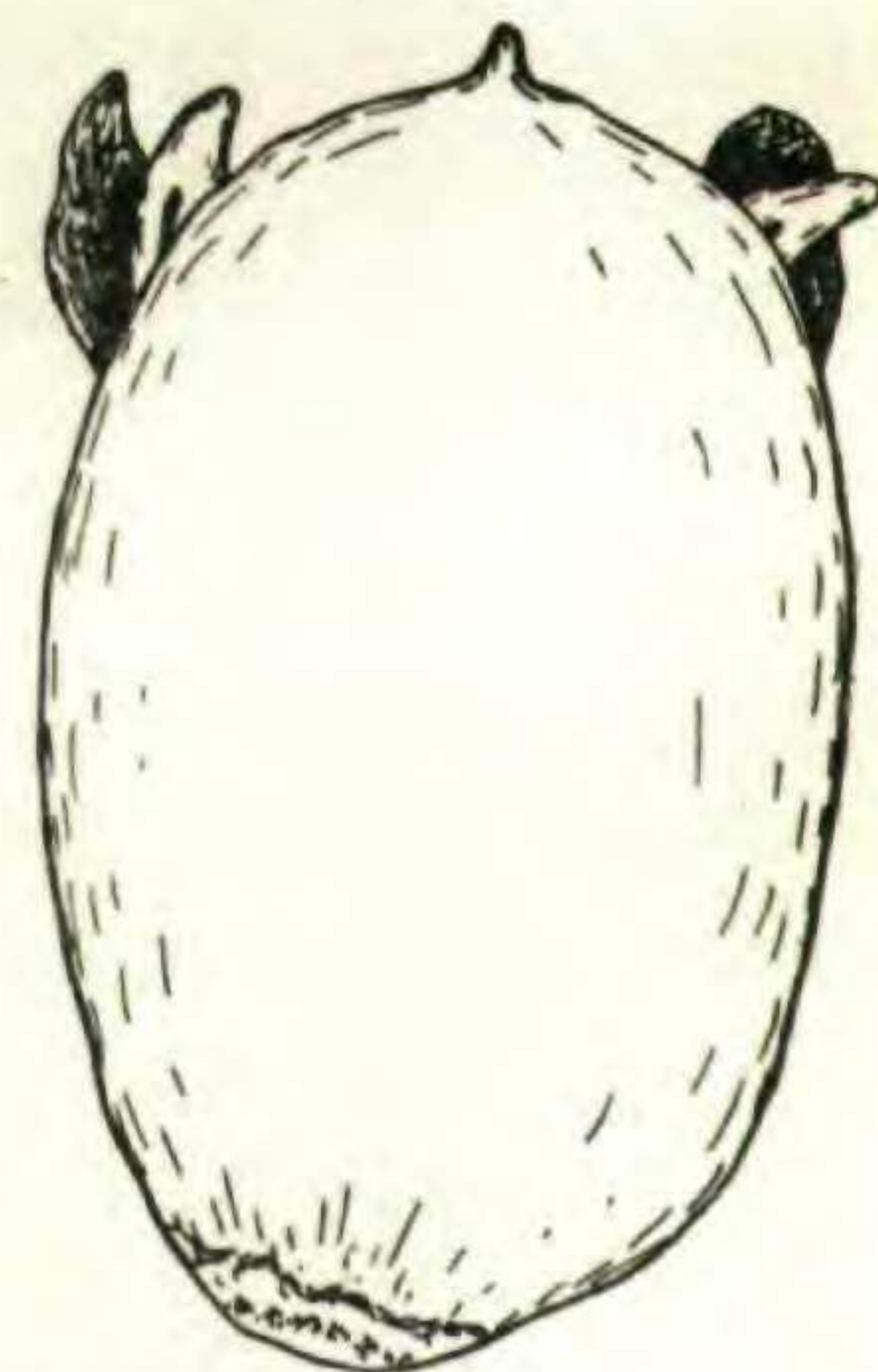


Fig. 3. A 2-seeded nut; sprouts on opposite sides, not at apex.

Masters, in his "Vegetable Teratology," supplying quite a paragraph upon the subject of "Plurality of embryos in *Quercus*."

Since the normal number of ovules in the oak ovary is six, it is not so very wonderful that more than one of these should occasionally be fertilized and mature into seeds, perfect in all their parts, though abnormal in shape. It does seem odd, however, that such a large number of these abnormal fruits should be produced by one or two trees at one time.

MARYLAND AGRICULTURAL COLLEGE, College Park, Maryland.

THE NORTH AMERICAN REPRESENTATIVE OF *ARENARIA CILIATA*.

M. L. FERNALD.

ARENARIA cylindrocarpa, n. sp., perennis dense vel laxe caespitosa, ramis filiformibus humifusis, ramulis adscendentibus 1–15 cm. altis puberulis remote foliatis 1–4-floris; foliis imbricatis vel remotis lanceolatis vel oblanceolatis vel oblongis subacutis glabris carnulosis siccis obsolete uninerviis 2–10 mm. longis, axillis haud vel rare fasciculigeris; pedicellis puberulis 2–30 mm. longis; calyce cylindrico basi rotundato 3–5 mm. longo fructifero 2–2.5 mm. diametro, sepalis oblongis obtusis vel subacutis enerviis vel obsolete uninerviis ad capsulam arcte adpressis; petalis anguste oblongis 5–7-nerviis calycem vix aequantibus; antheris carneis; capsulis cylindricis calycem longioribus 4.5–5.5 mm. longis olivaceis vel brunneis; seminibus reniformibus 0.6–0.7 mm. longis brunneis nitidis obsolete rugulosis.

Perennial, densely or loosely caespitose; branches filiform, forming close creeping mats; branchlets ascending, 1–15 cm. high, puberulent, remotely leafy, 1–4-flowered: leaves imbricated or remote, lanceolate, oblanceolate or oblong, subacute, glabrous, thickish, when dry obscurely 1-nerved, 2–10 mm. long; the axils rarely if ever bearing small fascicles: pedicels puberulent, 2–30 mm. long: calyx cylindric, rounded at base, 3–5 mm. long, in fruit 2–2.5 mm. in diameter; sepals oblong, obtuse or subacute, nerveless or obscurely 1-nerved, closely appressed to the capsule: petals narrowly oblong, 5–7-nerved, barely equaling the calyx: anthers flesh-colored: capsules cylindric, exceeding the calyx, 4.5–5.5 mm. long, olive or brown: seeds reniform, 0.6–0.7 mm. long, brown, shining, obscurely rugulose.— *A. ciliata*, var. *humifusa* Robinson, Proc. Am. Acad. xxix. 292 (1894) and in Gray, Syn. Fl. i.